



2010

Alberta Fire Commissioner's Statistical

R

E

P

O

R

T

Alberta



# Table of Contents

---



## Messages

|                             |   |
|-----------------------------|---|
| Minister's Message          | 2 |
| Fire Commissioner's Message | 2 |



## Alberta Fire Deaths and Injuries

|                                                                   |   |
|-------------------------------------------------------------------|---|
| Fire Deaths and Injuries 2001 to 2010<br>(Alberta and Canada)     | 3 |
| Location of Fire Deaths 2010                                      | 4 |
| Causes of Fire Deaths                                             | 4 |
| Fire Deaths and Injuries by Age and Status                        | 5 |
| Risk of Fire Deaths and Injuries                                  | 5 |
| Fire Deaths and Injuries by Month,<br>Day of Week and Time of Day | 6 |
| Fire Deaths by Major Property Classification                      | 7 |
| Fire Injuries by Major Property Classification                    | 8 |
| Causes of Fire Injuries                                           | 8 |



## Alberta Fire Losses

|                                                      |    |
|------------------------------------------------------|----|
| Fire Losses in Alberta 2001 to 2010                  | 9  |
| Fire Rates and Per Capita Losses 2001 to 2010        | 10 |
| Fire Losses Related to Economic Indices 2001 to 2010 | 10 |
| Fire Losses by Major Property Classification         | 11 |
| Fire Losses by Major Sources of Ignition             | 11 |
| Fire Losses by Major Acts or Omissions               | 12 |
| Fire Losses by Major Materials First Ignited         | 12 |
| Initial Detection of Fires                           | 13 |
| Fires by Method of Fire Control and Extinguishment   | 13 |



## Alberta Home Fire Losses

|                                          |    |
|------------------------------------------|----|
| Home Fires by Type of Home               | 14 |
| Home Fires by Major Areas of Fire Origin | 14 |
| Major Known Causes of Home Fires         | 15 |
| Home Fires by Smoke Alarm Operation      | 16 |

|                 |    |
|-----------------|----|
| <b>Glossary</b> | 18 |
|-----------------|----|

|                 |    |
|-----------------|----|
| Acknowledgement | 20 |
|-----------------|----|

---

# Messages



## Minister's Message

Greetings from the Honourable Doug Griffiths, Minister of Municipal Affairs.

The Office of the Fire Commissioner of Alberta Municipal Affairs is committed to working with fire and emergency services to keep our communities safe.

The Fire Commissioner's annual statistical report is a valuable tool in identifying fire causes and assessing trends that help guide fire prevention and safety efforts in Alberta. This report highlights fire hazards and trends firefighters across Alberta need to be aware of so they can be as safe as possible in their work as emergency responders.

Together, we can make Alberta safer by learning from the information in this report as we work to reduce the harmful and devastating effects of fires.

Honourable Doug Griffiths  
Minister of Municipal Affairs



## Fire Commissioner's Message

A total of 4,980 fires in Alberta were reported to the Office of the Fire Commissioner in 2010. These fires resulted in 22 deaths, 209 injuries and \$310 million in direct property losses. Thirty-seven percent of all fires in Alberta occurred in homes. Home fires accounted for 64 per cent of all fire deaths (14 out of 22), 64 per cent of all fire injuries (133 out of 209) and 56 per cent of all property losses (\$213M out of \$380M) from fires in 2010.

During the 10-year period 2001-10, the annual number of fires reported to the Fire Commissioner averaged 5,539. In 2010, reported fires dipped below 5,000. While I would like to attribute this decline to our strong fire prevention efforts, engineering practices and public education programs, unfortunately it is a reflection of a growing failure to report fire incidents.

I am deeply concerned that fire reporting has declined in recent years, and I urge fire/emergency services, safety codes officers and the insurance industry to help us report data to accurately reflect the number of fires in this province. I recognize that we all get busy in the day-to-day world of keeping Albertans safe, but I also know that these statistics can provide valuable insight into improving safety, saving lives and reducing property loss. Reporting isn't just about creating an annual report. Maintaining a timely and accurate statistical database is essential to identify trends that threaten the safety of Albertans. For example, as Alberta's population of seniors grows, we must pay particular attention to the fact that they are now the demographic facing the highest possibility of death by fire. Accurate statistics will help us better target initiatives and programs to vulnerable segments of our population. Fire statistics can also influence our thinking on property development, building and fire codes, building materials and even changes in fire service delivery... all of which can prevent fires or reduce their effect.

I expect each and every fire and emergency services department to ensure they take the time to report fire incidents to my office so together we can build on the good fire prevention work happening in Alberta with meaningful and accurate information.

Yours in safety,

Trent R. West  
Fire Commissioner and Executive Director

# Alberta Fire Deaths and Injuries

## Fire Deaths and Injuries 2001 to 2010 (Alberta and Canada)

| Year           | Population* | Fire Deaths | Alberta Fire Death Rate† | Canada Fire Death Rate‡ | Fire Injuries | Alberta Fire Injury Rate§ |
|----------------|-------------|-------------|--------------------------|-------------------------|---------------|---------------------------|
| 2001           | 2,962,664   | 43          | 1.5                      | 1.1                     | 393           | 13.3                      |
| 2002           | 3,050,889   | 31          | 1.0                      | 1                       | 307           | 10.1                      |
| 2003           | 3,091,831   | 24          | 0.8                      | 0.9                     | 323           | 10.4                      |
| 2004           | 3,124,923   | 27          | 0.9                      | 1                       | 291           | 9.3                       |
| 2005           | 3,242,110   | 38          | 1.2                      | 0.9                     | 247           | 7.6                       |
| 2006           | 3,303,762   | 35          | 1.1                      | —                       | 236           | 7.1                       |
| 2007           | 3,416,498   | 23          | 0.7                      | —                       | 212           | 6.2                       |
| 2008           | 3,496,308   | 33          | 0.9                      | —                       | 244           | 7.0                       |
| 2009           | 3,584,648   | 28          | 0.80                     | —                       | 208           | 5.8                       |
| 2010           | 3,609,319   | 22          | 0.60                     | —                       | 209           | 5.8                       |
| <b>Total</b>   | —           | <b>304</b>  | —                        | —                       | <b>2,670</b>  | —                         |
| <b>Average</b> | —           | <b>30</b>   | <b>0.95</b>              | —                       | <b>267</b>    | <b>8.3</b>                |

\* Source: Alberta Municipal Affairs: [www.municipalaffairs.alberta.ca/documents/LGS/2010pop.pdf](http://www.municipalaffairs.alberta.ca/documents/LGS/2010pop.pdf)

§ Source: Council of Canadian Fire Marshals and Fire Commissioners: [www.ccfmfc.ca/stats.html](http://www.ccfmfc.ca/stats.html)

† Fire Death Rate: Number of fire deaths per 100,000 population

‡ Fire Injury Rate: Number of fire injuries per 100,000 population



## FIRE Facts

◆ Based on probable causes of death, smoke inhalation accounted for 68%; burns 18%; and other causes 14% of all fire deaths in 2010. The probable causes of fire injuries were, smoke inhalation (25%); burns (50%); physical injury (20%); and other injury (6%).

◆ The annual fire death rates in Alberta (for 2001-2010) have fluctuated around an average of 0.95 deaths per 100,000 population, with a range of 0.6 to 1.5. The annual fire injury rates in Alberta have fluctuated around an average of 8.3 injuries per 100,000 population, with a range of 5.8 to 13.3.



# Alberta Fire Deaths and Injuries

## Location of FIRE Deaths 2010

|                            |           |
|----------------------------|-----------|
| Bonnyville                 | 1         |
| Calgary                    | 2         |
| Cochrane                   | 1         |
| Edmonton                   | 5         |
| Lacombe County             | 1         |
| Rocky View No. 44, M.D. of | 1         |
| Stettler, No. 6, County of | 1         |
| Strathcona County          | 1         |
| Vegreville                 | 1         |
| Westlock                   | 1         |
| Cold Lake First Nations    | 1         |
| Saddle Lake First Nation   | 1         |
| Greenview No. 16, M.D. of  | 2         |
| Busche River #207          | 2         |
| Hobbema                    | 1         |
| <b>Total</b>               | <b>22</b> |

## Causes of Fire Deaths

### One- and Two-Family Dwellings and Apartments

|                                                                                             |   |
|---------------------------------------------------------------------------------------------|---|
| Arson/set fire ignited natural gas (1), flammable/combustible liquid vapours (1)            | 2 |
| Smoker's material ignited upholstered furniture (1), grass/brush/leaves (1)                 | 2 |
| Electric short circuit, in incandescent lamp/light bulb/heat lamp, ignited paper            | 1 |
| Stove top burner ignited cardboard placed too close                                         | 1 |
| Stove top burner ignited unknown material, victim asleep (suspect alcohol/drugs/medication) | 1 |
| Unknown ignition scenario, victim asleep (suspect alcohol/drugs/medication)                 | 2 |
| Unknown ignition scenario, victim impaired (suspect alcohol/drugs/medication)               | 1 |
| Unknown                                                                                     | 4 |

### Hotel, Inn, Lodge (Year Round Use)

|                                                                                |   |
|--------------------------------------------------------------------------------|---|
| Portable space heater ignited clothing/textiles, victim distracted/preoccupied | 1 |
|--------------------------------------------------------------------------------|---|

### Garage (Individual Residential Parking)

|                                                             |   |
|-------------------------------------------------------------|---|
| Unknown ignition scenario ignited cardboard/cardboard items | 1 |
|-------------------------------------------------------------|---|

### Heavy Machines and Equipment Storage

|                                                            |   |
|------------------------------------------------------------|---|
| Cutting torch ignited flammable/combustible liquid vapours | 1 |
|------------------------------------------------------------|---|

### Automobile (Includes Cars, Light Trucks, Vans, Single Body Units)

|                                             |   |
|---------------------------------------------|---|
| Arson/set fire                              | 1 |
| Smoker's material ignited clothing/textiles | 1 |

### Tractor Trailer

|                            |   |
|----------------------------|---|
| Industrial truck collision | 1 |
|----------------------------|---|

### Farm Tractor and Equipment, Grain Dryer, Harvester, Picker, Etc.

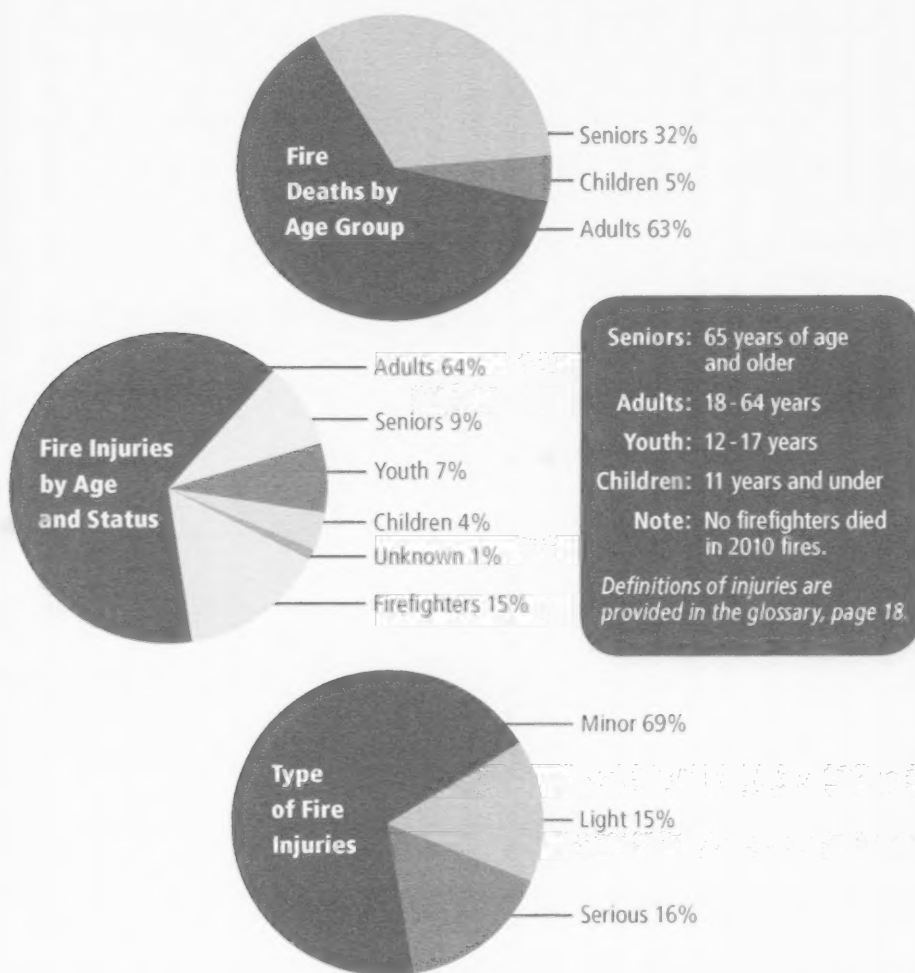
|                                                                                                            |   |
|------------------------------------------------------------------------------------------------------------|---|
| Undetermined mechanical/electrical failure/malfunction ignited unclassified agricultural/forestry products | 1 |
| Unknown                                                                                                    | 1 |

## Total Fire Deaths

22



## Fire Deaths and Injuries by Age and Status



## Risk of Fire Deaths and Injuries

The risk of dying or being injured in a fire can be calculated as the fire death rate or fire injury rate – the number of casualties in an age group divided by the population of the age group. When fire deaths or injuries were calculated for the five-year period, 2006 to 2010, as rates per 100,000 population, per annum, using the above formula, it was found that:

- Seniors 65 years and older had the highest risk of dying in fires (fire death rate of 1.4), followed by adults 50-64 years (1.0), adults 35-49 years (0.9), adults 18-34 years (0.7), youth 12-17 years (0.3), children 6-11 years (0.1), and children 5 years and under (0.1).
- Civilian adults 35-49 years had the highest risk of being injured in fires (fire injury rate of 6.0) followed by adults 18-34 years (5.8), adults 50-64 years (4.8), youth 12-17 years (4.2), seniors 65 years and older (3.8), children 6 to 11 years (1.2) and children 5 years and under (0.9).

Population data source: Interactive Health Data Application, Alberta Health and Wellness:  
[www.ahw.gov.ab.ca/IHDA\\_Retrieval](http://www.ahw.gov.ab.ca/IHDA_Retrieval)

## FIRE Facts

- ◆ On average, a fire related death occurred every 17 days in Alberta in 2010.
- ◆ Of the 22 fatalities, 27% were asleep; 14% were impaired (alcohol/drugs/medication); 14% were bedridden/physically handicapped; and 5% were awake and normal at the time of fire. The condition of other fatalities is unknown or unclassified. Where known, actions of fatalities were: Entered/remained for firefighting (9%); did not act (9%); loss of judgment/panic (5%); and received delayed warning (5%).
- ◆ Of the 209 injuries, 58% were awake and normal; 13% were asleep; 5% were impaired (alcohol/drugs/medication); 3% were physically/mentally impaired; and 2% children too young to react or left unattended. Actions of the injured were: Entered/remained for firefighting (29%); injured while attempting escape (12%); entered/remained for rescue purposes (9%); and entered/remained to save personal property (5%).
- ◆ There were 0.6 fire injuries reported per day, on average, in Alberta in 2010.
- ◆ The civilian adult male to female ratio was 3:1 for fire deaths and 2:1 for fire injuries.



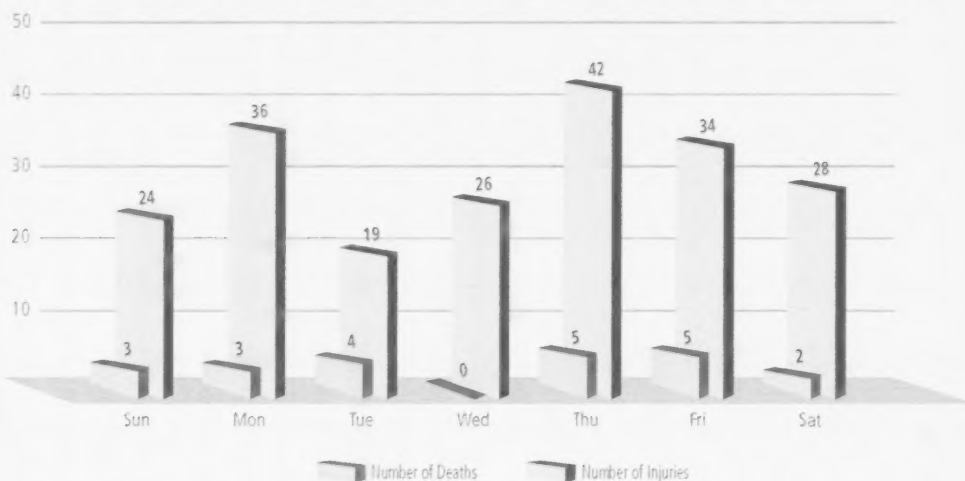
## FIRE Facts

- ◆ The highest number of fire deaths per month occurred in January (6), while the highest number of fire injuries were in December (31), May (26), and July (23). A five-year (2006-10) analysis revealed most fatalities occurred in January (17%) and November (16%) and most injuries happened in December (11%) and February (10%).
- ◆ The highest number of fire deaths per day of week occurred on Thursdays and Fridays (5 each), while the highest number of fire injuries were on Thursdays (42) and Mondays (36). A five-year analysis revealed most fatalities occurred on Fridays (20%) and Thursdays (19%), and most injuries on Fridays (16%), Tuesdays and Thursdays (15% each).
- ◆ Forty six per cent of all fire deaths occurred during sleeping hours between 10:30 p.m. and 6:29 a.m. The majority of fire injuries (39%) occurred between 2:30 and 10:29 p.m. A five-year analysis revealed most fatalities (55%) occurred between 10:30 p.m. and 6:29 a.m., while most injuries (37%) happened between 2:30 and 10:29 p.m.

## Fire Deaths and Injuries by Month



## Fire Deaths and Injuries by Day of Week



## Fire Deaths and Injuries by Time of Day

| Time Periods            | Type       |            |             |            |
|-------------------------|------------|------------|-------------|------------|
|                         | Injuries   |            | Fire Deaths |            |
|                         | No.        | %          | No.         | %          |
| 2:30 p.m. to 10:29 p.m. | 82         | 39.2       | 8           | 36.4       |
| 10:30 p.m. to 6:29 a.m. | 70         | 33.5       | 10          | 45.5       |
| 6:30 a.m. to 2:29 p.m.  | 53         | 25.4       | 4           | 18.2       |
| Unknown                 | 4          | 1.9        | —           | —          |
| <b>Total</b>            | <b>209</b> | <b>100</b> | <b>22</b>   | <b>100</b> |

## Fire Deaths by Major Property Classification

| Property Classification                       |                                                                  | Fire Deaths |             |
|-----------------------------------------------|------------------------------------------------------------------|-------------|-------------|
|                                               |                                                                  | No.         | %           |
| Residential                                   | One and Two Family Dwellings                                     | 11          | 50.0        |
|                                               | Apartments                                                       | 3           | 13.6        |
|                                               | Hotel, Inn, Lodge (Year Round Use)                               | 1           | 4.5         |
|                                               | <b>Sub Total</b>                                                 | <b>15</b>   | <b>68.2</b> |
| Special Property and Transportation Equipment | Automobile (Includes cars/light trucks/vans/ single body units)  | 2           | 9.1         |
|                                               | Farm Tractor and Equipment, Grain Dryer, Harvester, Picker, Etc. | 2           | 9.1         |
|                                               | Tractor Trailer                                                  | 1           | 4.5         |
|                                               | <b>Sub Total</b>                                                 | <b>5</b>    | <b>22.7</b> |
| Storage Properties                            | Garage (Individual Residential Parking)                          | 1           | 4.5         |
|                                               | Heavy Machines and Equipment Storage                             | 1           | 4.5         |
|                                               | <b>Sub Total</b>                                                 | <b>2</b>    | <b>9.1</b>  |
| <b>Total</b>                                  |                                                                  | <b>22</b>   | <b>100</b>  |



### FIRE Facts

- ◆ Residential properties accounted for 68 per cent of fire deaths in 2010 and 76 per cent in the five-year period, 2006-10.



# Alberta Fire Deaths and Injuries

## Fire Injuries by Major Property Classification

| Property Classification                               | No.        | %           |
|-------------------------------------------------------|------------|-------------|
| Residential                                           |            |             |
| One and Two Family Dwellings                          | 79         | 37.8        |
| Apartments                                            | 49         | 23.4        |
| Hotel, Inn, Lodge (year round use)                    | 9          | 4.3         |
| Mobile Home (1 or 2 family units)                     | 5          | 2.4         |
| Other Residential                                     | 4          | 2.0         |
| <b>Sub Total</b>                                      | <b>146</b> | <b>69.9</b> |
| Special Property and Transportation Equipment         |            |             |
| Buildings Under Demolition/Construction               | 15         | 7.2         |
| Cars                                                  | 4          | 1.9         |
| Trucks (including light trucks/van/single body units) | 2          | 1.0         |
| Other Properties                                      | 8          | 4.0         |
| <b>Sub Total</b>                                      | <b>29</b>  | <b>13.9</b> |
| Institutional                                         | 10         | 4.8         |
| Storage Properties                                    | 8          | 3.8         |
| Industrial Manufacturing Properties                   | 7          | 3.3         |
| Mercantile                                            | 5          | 2.4         |
| Miscellaneous Property                                | 2          | 1.0         |
| Assembly                                              | 2          | 1.0         |
| <b>Total</b>                                          | <b>209</b> | <b>100</b>  |

## Causes of Fire Injuries

| Causes                                                                                              | No.        | %          |
|-----------------------------------------------------------------------------------------------------|------------|------------|
| Stove Top Fire in Pan/Deep Fat-fryer (mostly ignition of cooking oil)                               | 31         | 14.8       |
| Arson/Vandalism                                                                                     | 25         | 12.0       |
| Central Furnaces and Water Heaters                                                                  | 15         | 7.2        |
| Cigarette/Smoker's Material Igniting a Variety of Combustibles                                      | 13         | 6.2        |
| Stove Top Burner/Other Cooking Equipment                                                            | 13         | 6.2        |
| Ignition of Flammable Liquids/Gases                                                                 | 12         | 5.7        |
| Space Heaters, Wood Stoves                                                                          | 12         | 5.7        |
| Electrical Wiring, Switches, Panels, Extension Cords, Power Bars Igniting a Variety of Combustibles | 11         | 5.3        |
| Candles Igniting a Variety of Combustibles                                                          | 7          | 3.3        |
| Appliances (TV, Refrigerator, Vacuum Cleaner, etc.)                                                 | 4          | 1.9        |
| Child Fire-Play With Matches, Lighters, Smoker's Materials, etc.                                    | 3          | 1.4        |
| Cutting, Welding, Other Torches                                                                     | 3          | 1.4        |
| Internal Combustion Engine, Mostly Igniting Flammable Liquids/Gases                                 | 3          | 1.4        |
| Other/Unknown                                                                                       | 57         | 27.3       |
| <b>Total</b>                                                                                        | <b>209</b> | <b>100</b> |

## FIRE Facts

- ◆ Most fire injuries occurred in residential properties (70%), particularly in one and two family dwellings (38%) and apartments (23%). In the five-year period, 2006-10, residential properties accounted for 65 per cent of fire injuries, mostly in one and two family dwellings (37%) and apartments (18%).
- ◆ Stove-top cooking (15%) and arson/vandalism (12%) fires inflicted the majority of fire injuries.

## Fire Losses in Alberta 2001 to 2010

| Year           | Fires         | Deaths      | Injuries     | \$ Losses            | Adjusted \$ Losses*  |
|----------------|---------------|-------------|--------------|----------------------|----------------------|
| 2001           | 7,021         | 43          | 393          | 229,231,932          | 237,054,738          |
| 2002           | 5,994         | 31          | 307          | 272,588,413          | 272,588,413          |
| 2003           | 5,647         | 24          | 323          | 348,481,771          | 333,794,799          |
| 2004           | 5,140         | 27          | 291          | 202,740,018          | 191,444,776          |
| 2005           | 5,197         | 38          | 247          | 450,243,320          | 416,506,309          |
| 2006           | 5,140         | 35          | 236          | 215,597,806          | 191,983,799          |
| 2007           | 5,310         | 23          | 212          | 333,256,887          | 282,660,634          |
| 2008           | 5,707         | 33          | 244          | 390,002,856          | 320,726,033          |
| 2009           | 5,259         | 28          | 208          | 520,267,851          | 428,203,993          |
| 2010           | 4,980         | 22          | 209          | 380,036,077          | 309,727,854          |
| <b>Total</b>   | <b>55,395</b> | <b>304</b>  | <b>2,670</b> | <b>3,342,446,931</b> | <b>2,984,691,348</b> |
| <b>Average</b> | <b>5,539</b>  | <b>30.4</b> | <b>267</b>   | <b>334,244,693</b>   | <b>298,469,135</b>   |

\* Adjusted losses were calculated from actual losses using the Annual Consumer Price Index (C.P.I.) figures for Alberta obtained from Statistics Canada (2002 CPI = 100), [www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ09j-eng.htm](http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/econ09j-eng.htm)



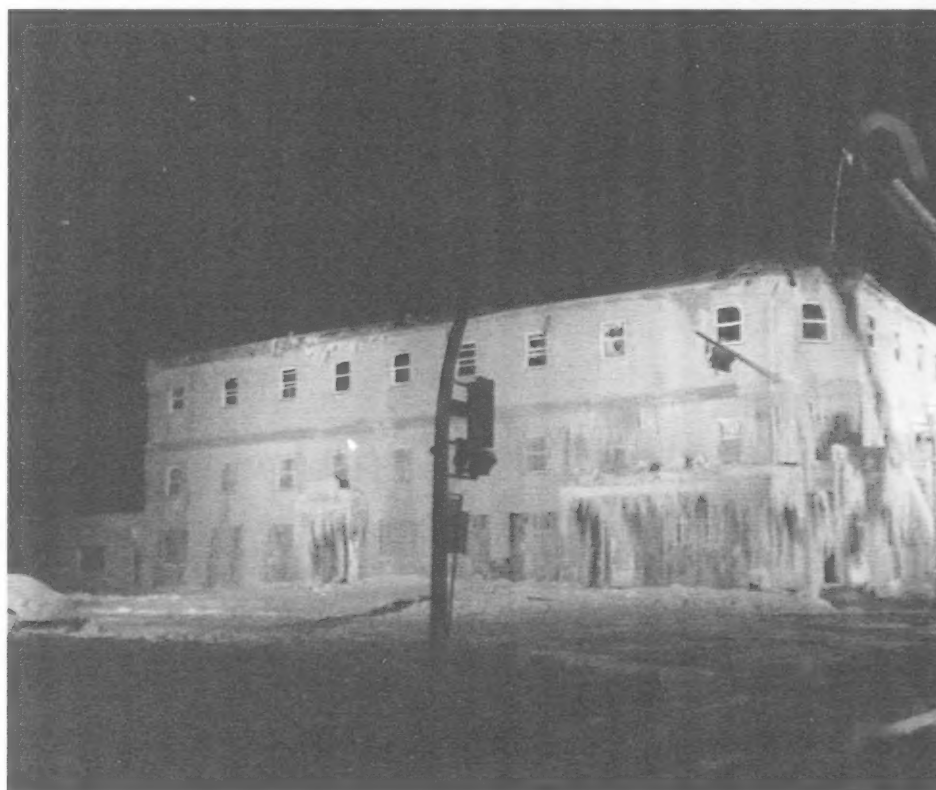
## FIRE Facts

◆ During the 10-year period 2001 to 2010, the annual number of fires reported to the Fire Commissioner averaged 5,539. 2010 marks the first year in which the number of fires declined below 5,000. This decline represents sub-standard reporting.

◆ The numbers of all fire related deaths and fire injuries have fluctuated between 22 - 43 (average 30.4) and 208 - 393 (average 267), respectively.

◆ From a total of 4,980 fires during 2010, there were 3,098 structural fires (58%); 1,631 vehicle fires (29%) and 498 outdoor fires (11%).

◆ There were approximately 14 destructive fires reported per day, on average, in Alberta during 2010. Direct property losses from fires were on average \$1,041,195 per day and \$76,313 per fire.





## FIRE Facts

- ◆ The province has experienced an average fire rate of 1.7 during the period 2001 to 2010.
- ◆ As a percentage of gross domestic product, fire losses have decreased from 2009 to 2010 by 36%. As a percentage of personal income, fire losses have decreased by 32% over the same period.
- ◆ On average, 415 fires (range = 319 – 497) were reported to the Fire Commissioner each month during 2010. This average was exceeded in February (+23%) followed by September (+22%). On average, direct property losses averaged \$32M per month (range = \$17M – \$59M). This average was exceeded in June (+89%).
- ◆ On average there were 711 fires per day of week (range = 667 – 780). Property losses averaged \$54M per day of week (range = \$34M – \$112M).
- ◆ Where the time of fire was known, the number of fires was highest between 12 noon and 4 p.m. (21%) and 4 to 8 p.m. (19%). Dollar losses were highest between 12 noon and 4 p.m. (25%).

## Fire Rates and Per Capita Losses 2001 to 2010

| Year | Population | Fires | Fire Rate* | Loss Estimate | \$ Loss/Capita |
|------|------------|-------|------------|---------------|----------------|
| 2001 | 2,962,664  | 7,021 | 2.4        | 229,231,932   | 77.4           |
| 2002 | 3,050,889  | 5,994 | 2.0        | 272,588,413   | 89.3           |
| 2003 | 3,091,831  | 5,647 | 1.8        | 348,481,771   | 112.7          |
| 2004 | 3,124,923  | 5,140 | 1.6        | 202,740,018   | 64.9           |
| 2005 | 3,242,110  | 5,197 | 1.6        | 450,426,713   | 138.9          |
| 2006 | 3,303,762  | 5,140 | 1.6        | 215,597,806   | 65.3           |
| 2007 | 3,416,498  | 5,310 | 1.6        | 333,256,887   | 97.5           |
| 2008 | 3,496,308  | 5,707 | 1.6        | 390,002,856   | 111.5          |
| 2009 | 3,584,648  | 5,259 | 1.5        | 520,267,851   | 145.1          |
| 2010 | 3,609,319  | 4,980 | 1.4        | 380,036,077   | 105.3          |

\* Fire Rate = Number of fires per 1,000 population.

## Fire Losses Related to Economic Indices 2001 to 2010

| Year | Fire Losses (\$) | Gross Domestic Product (\$ million)* | % of GDP | Personal Income (\$ million)* | % of Personal Income |
|------|------------------|--------------------------------------|----------|-------------------------------|----------------------|
| 2001 | 229,231,932      | 151,274                              | 0.15     | 98,131                        | 0.23                 |
| 2002 | 272,588,413      | 150,594                              | 0.18     | 101,072                       | 0.27                 |
| 2003 | 348,481,771      | 170,113                              | 0.20     | 105,664                       | 0.33                 |
| 2004 | 202,740,018      | 189,743                              | 0.11     | 115,269                       | 0.18                 |
| 2005 | 450,426,713      | 219,810                              | 0.20     | 128,285                       | 0.35                 |
| 2006 | 215,597,806      | 238,886                              | 0.09     | 146,058                       | 0.15                 |
| 2007 | 333,256,887      | 255,787                              | 0.13     | 160,149                       | 0.21                 |
| 2008 | 390,002,856      | 288,700                              | 0.14     | 173,642                       | 0.22                 |
| 2009 | 520,267,851      | 240,697                              | 0.22     | 168,445                       | 0.31                 |
| 2010 | 380,036,077      | 263,537                              | 0.14     | 176,985                       | 0.21                 |

\* Sources: Statistics Canada, *Provincial and Territorial Economic Accounts: Data Tables*, catalogue number 13-018-X. Table 18. Selected Economic Indicators, Alberta; [www.statcan.gc.ca/pub/13-018-x/2010001/t/tab1848-eng.htm](http://www.statcan.gc.ca/pub/13-018-x/2010001/t/tab1848-eng.htm)

## FIRE Facts

### Fire Losses by Major Property Classification

| Major Property Classification | Fires        | %          | \$ Losses          | % of \$ Losses |
|-------------------------------|--------------|------------|--------------------|----------------|
| Residential                   | 1,951        | 39         | 222,660,033        | 59             |
| Special/Transportation        | 1,902        | 38         | 30,456,686         | 8              |
| Storage                       | 394          | 8          | 34,373,319         | 9              |
| Mercantile                    | 122          | 2          | 11,533,059         | 3              |
| Assembly                      | 118          | 2          | 35,324,105         | 9              |
| Industrial Manufacturing      | 93           | 2          | 25,461,188         | 7              |
| Business and Personal Service | 85           | 2          | 11,213,564         | 3              |
| Institutional                 | 34           | 1          | 1,201,481          | 0              |
| Miscellaneous                 | 281          | 6          | 7,812,642          | 2              |
| <b>Total</b>                  | <b>4,980</b> | <b>100</b> | <b>380,036,077</b> | <b>100</b>     |

### Fire Losses by Major Sources of Ignition

| Major Sources of Ignition           | Fires        | %          | \$ Losses          | % of \$ Losses |
|-------------------------------------|--------------|------------|--------------------|----------------|
| Smoker's Material and 'Open' Flames | 873          | 18         | 77,528,718         | 20             |
| Exposure                            | 549          | 11         | 23,064,485         | 6              |
| Electrical Distribution Equipment   | 462          | 9          | 28,934,344         | 8              |
| Cooking Equipment                   | 459          | 9          | 20,271,731         | 5              |
| Heating Equipment                   | 217          | 4          | 24,424,978         | 6              |
| Other Electrical Equipment          | 192          | 4          | 12,859,034         | 3              |
| Appliances and Equipment            | 131          | 3          | 9,137,170          | 2              |
| No Igniting Object                  | 31           | 1          | 1,725,253          | 1              |
| Not Determined                      | 1,499        | 30         | 150,059,001        | 40             |
| Miscellaneous                       | 567          | 11         | 32,031,363         | 8              |
| <b>Total</b>                        | <b>4,980</b> | <b>100</b> | <b>380,036,077</b> | <b>100</b>     |

- ◆ The largest number of fires occurred in one/two family dwellings (27%) and ground transport vehicles (23%), followed by apartments (9%) and individual residential parking garages (4%).
- ◆ Property classes with the highest dollar losses were one and two family dwellings (\$171M or 45%), apartments (\$40M or 11%) and high schools (includes combined high and elementary) (\$26M or 7%).
- ◆ The most frequent known areas of fire origin were in vehicle (30%) (engine area – 13%; passenger area – 5%; cargo area – 2%; control and fuel area – 1% each; and unclassified area – 8%). Other known areas were kitchen-cooking (10%) and trash/rubbish (5%).
- ◆ The most common sources of ignition in Alberta fires in 2010 were: Exposure fires from detached structures, vehicles, outdoor properties, etc. (10%); electrical distribution equipment, wiring, lamps (9%); cooking equipment, primarily stove top fires in pans/deep-fat fryers/pots (8%); smoker's materials such as cigarettes (4%); battery/rectifier/charger (3%). The sources of ignition were unknown in 30% of the fires and these fires resulted in \$150M or 40% of \$ losses.
- ◆ Where known, the most common fuel or energy associated with the source of ignition were:
  - Electricity (20%)
  - Exposure Fire (11%)
  - Match/Lighter-Not Related to Smoking (7%)
  - Propane, natural gas, other gas (5%)
  - Smoker's Material-cigarette/cigar/pipe/match/lighter (5%)
  - Coal/Wood/Coke/Paper, etc. (3%)
  - Gasoline (3%).



## FIRE Facts

- ◆ Arson and vandalism accounted for 19% of all fires in Alberta in 2010. This means that approximately one out of five fires was deliberately set.
- ◆ The other common acts or omissions were mechanical, electrical failure, malfunction (11%); electrical short circuit (7%); ignorance of hazard (5%); misuse of smoker's material (3%); overheated cooking oil, grease, wax (2%); distracted/preoccupied (2%) and combustible placed too close to heat (2%). Acts or omissions could not be determined in 20% of fires (\$76M).
- ◆ Where known, materials most commonly ignited first were building components (10%); garbage/trash/rubbish (4%); gasoline (4%); electric insulation in electric equipment (3%); cooking oil/fat (4%) and grass/brush/leaves (2%). Materials first ignited were not determined in 33% of the fires and these fires accounted for \$114M in property losses.

## Fire Losses by Major Acts or Omissions

| Major Acts or Omissions                       | Fires        | %          | \$ Losses          | % of \$ Losses |
|-----------------------------------------------|--------------|------------|--------------------|----------------|
| Mechanical/Electrical Failure/Malfunction     | 1,119        | 22         | 73,073,852         | 19             |
| Arson or 'Set' Fires                          | 951          | 19         | 35,811,624         | 9              |
| Human Failing                                 | 640          | 13         | 71,348,897         | 19             |
| Misuse of Source of Ignition                  | 318          | 6          | 25,474,492         | 7              |
| Misuse of Material Ignited                    | 311          | 6          | 23,426,908         | 6              |
| Construction, Design, Installation Deficiency | 86           | 2          | 41,365,635         | 11             |
| Vehicle Accident                              | 77           | 2          | 1,681,320          | 0              |
| Misuse of Equipment                           | 76           | 2          | 8,622,888          | 2              |
| Not Determined                                | 998          | 20         | 75,925,073         | 20             |
| Miscellaneous                                 | 214          | 4          | 10,293,490         | 3              |
| Act or Omission – Not Applicable              | 190          | 4          | 13,011,898         | 3              |
| <b>Total</b>                                  | <b>4,980</b> | <b>100</b> | <b>380,036,077</b> | <b>100</b>     |

## Fire Losses by Major Materials First Ignited

| Major Materials First Ignited     | Fires        | %          | \$ Losses          | % of \$ Losses |
|-----------------------------------|--------------|------------|--------------------|----------------|
| Building Components               | 623          | 13         | 97,630,020         | 26             |
| Flammable and Combustible Liquids | 622          | 12         | 36,434,851         | 10             |
| Wood, Paper Products              | 382          | 8          | 18,852,254         | 5              |
| Agricultural Products             | 244          | 5          | 9,332,816          | 3              |
| Chemicals                         | 243          | 5          | 9,030,984          | 2              |
| Clothing, Textiles                | 185          | 4          | 9,735,219          | 3              |
| Furniture, Furnishings            | 160          | 3          | 30,614,283         | 8              |
| Flammable Gases                   | 57           | 1          | 8,095,523          | 2              |
| Not Determined                    | 1,658        | 33         | 114,082,439        | 30             |
| Miscellaneous                     | 806          | 16         | 46,227,688         | 12             |
| <b>Total</b>                      | <b>4,980</b> | <b>100</b> | <b>380,036,077</b> | <b>100</b>     |

## Initial Detection of Fires

| Method of Initial Detection             | Fires        | %          |
|-----------------------------------------|--------------|------------|
| Visual Sighting/Personal Detection      | 4,302        | 86         |
| Smoke Alarm – Single Station            | 134          | 3          |
| Smoke Detector – Linked to Alarm System | 89           | 2          |
| No Initial Detection/Burnt Out          | 83           | 2          |
| Initial Detection –Unclassified         | 73           | 1          |
| Automatic Sprinkler System              | 30           | 1          |
| Heat Detector – Linked To Alarm System  | 17           | 0          |
| Automatic System – Other Than Sprinkler | 7            | 0          |
| Initial Detection – Unknown             | 245          | 5          |
| <b>Total</b>                            | <b>4,980</b> | <b>100</b> |

## Fires by Method of Fire Control and Extinguishment

| Method of Fire Control and Extinguishment | Fires        | %          |
|-------------------------------------------|--------------|------------|
| Fire Department – Water                   | 2,821        | 57         |
| Hand Fire Extinguisher                    | 509          | 10         |
| Makeshift Fire Fighting Aid               | 390          | 8          |
| Burned Out                                | 378          | 8          |
| Fire Department – Other Than Water        | 194          | 4          |
| Miscellaneous – Unclassified              | 148          | 3          |
| Standpipe System                          | 78           | 2          |
| Sprinkler System                          | 23           | 1          |
| Fixed System Other Than Sprinklers        | 7            | 0          |
| Miscellaneous – Unknown                   | 432          | 9          |
| <b>Total</b>                              | <b>4,980</b> | <b>100</b> |



## FIRE Facts

- ◆ Visual sighting or other means of personal detection (86%) was the primary means of initial detection of fires in 2010, while smoke alarms/detector devices accounted for 5%.
- ◆ Where the method of fire control and extinguishment is known, fire departments extinguished 57% of all reported fires. The other common methods of fire extinguishment were hand fire extinguishers (10%) and "makeshift" fire fighting aids (8%).

# Alberta Home Fire Losses



## FIRE Facts

- ◆ Thirty-seven percent of all fires in Alberta occurred in homes. Home fires accounted for 64% of all fire deaths (14 out of 22), 64% of all fire injuries (133 out of 209) and 56% of all property losses (\$213M out of \$380M) from fires.
- ◆ Most Alberta home fires started in kitchens (25%), bedrooms and court/patio/terrace (7% each), and living rooms (6%). The highest percentage of deaths (29%) and injuries (36%) occurred in kitchen fires.

## Home Fires by Type of Home

| Type of Home                    | Fires        | % of Fires | Deaths    | % of Deaths | Injuries   | % of Injuries | \$ Losses          | % of \$ Losses |
|---------------------------------|--------------|------------|-----------|-------------|------------|---------------|--------------------|----------------|
| One and Two Family Dwellings    | 1,339        | 73         | 11        | 79          | 79         | 59            | 170,565,140        | 80             |
| Apartments, Tenements and Flats | 428          | 23         | 3         | 21          | 49         | 37            | 39,703,820         | 19             |
| Mobile Homes                    | 58           | 3          | 0         | 0           | 5          | 4             | 3,079,314          | 1              |
| <b>Total</b>                    | <b>1,825</b> | <b>100</b> | <b>14</b> | <b>100</b>  | <b>133</b> | <b>100</b>    | <b>213,348,274</b> | <b>100</b>     |

## Home Fires by Major Areas of Fire Origin

| Area of Origin                       | Fires        | % of Fires | Deaths    | % of Deaths | Injuries   | % of Injuries | \$ Losses          | % of \$ Losses |
|--------------------------------------|--------------|------------|-----------|-------------|------------|---------------|--------------------|----------------|
| Kitchen/Cooking Area                 | 454          | 25         | 4         | 29          | 48         | 36            | 56,299,828         | 26             |
| Court/Patio/Terrace                  | 132          | 7          | 1         | 7           | 7          | 5             | 28,756,207         | 13             |
| Sleeping (Under Five Occupants)      | 125          | 7          | 3         | 21          | 13         | 10            | 13,949,476         | 7              |
| Lounge/Living Room                   | 105          | 6          | 2         | 14          | 21         | 16            | 11,554,443         | 5              |
| Exterior Wall                        | 96           | 5          | 0         | 0           | 1          | 1             | 6,490,795          | 3              |
| Vehicle (Garage)                     | 63           | 3          | 0         | 0           | 4          | 3             | 11,098,089         | 5              |
| Exterior Balcony/Porch               | 50           | 3          | 0         | 0           | 2          | 2             | 3,251,311          | 2              |
| Laundry Area                         | 49           | 3          | 0         | 0           | 0          | 0             | 3,451,310          | 2              |
| Heating Equipment Room               | 49           | 3          | 0         | 0           | 4          | 3             | 5,471,990          | 3              |
| Washroom/Locker Room                 | 41           | 2          | 1         | 7           | 4          | 3             | 4,187,825          | 2              |
| Ceiling and Roof/Ceiling Space-Attic | 37           | 2          | 0         | 0           | 0          | 0             | 4,412,495          | 2              |
| All Other Areas                      | 466          | 24         | 1         | 7           | 17         | 14            | 41,729,949         | 19             |
| Area of Origin – Unknown             | 158          | 9          | 2         | 14          | 12         | 9             | 22,694,556         | 11             |
| <b>Total</b>                         | <b>1,825</b> | <b>100</b> | <b>14</b> | <b>100</b>  | <b>133</b> | <b>100</b>    | <b>213,348,274</b> | <b>100</b>     |

## Major Known Causes of Home Fires

| Fire Causes                           | Fires        | % of Fires | Deaths    | Injuries   | \$ Losses          |
|---------------------------------------|--------------|------------|-----------|------------|--------------------|
| Cooking                               | 390          | 21         | 2         | 42         | 16,646,962         |
| Arson/Set Fire                        | 230          | 13         | 2         | 10         | 16,823,757         |
| Smoking                               | 178          | 10         | 2         | 13         | 31,383,893         |
| Electrical Distribution Equipment     | 160          | 9          | 0         | 9          | 15,214,368         |
| Exposure Fire*                        | 159          | 9          | 0         | 0          | 10,784,238         |
| Heating Equipment Related†            | 132          | 7          | 0         | 16         | 17,394,453         |
| Light/Fluorescent Bulb                | 36           | 2          | 1         | 0          | 3,258,270          |
| Candle (Accident)                     | 36           | 2          | 0         | 6          | 3,049,391          |
| Appliance/Equipment Related           | 36           | 2          | 0         | 1          | 4,330,491          |
| Clothes Dryer                         | 28           | 2          | 0         | 0          | 1,633,588          |
| Welding/Torch Too Close               | 19           | 1          | 0         | 0          | 3,476,148          |
| Child Fire-play                       | 14           | 1          | 0         | 5          | 639,886            |
| Flammable/Combustible Liquid Ignition | 13           | 1          | 0         | 3          | 763,448            |
| Other Causes – Unknown                | 394          | 22         | 7         | 28         | 87,949,381         |
| <b>Total</b>                          | <b>1,825</b> | <b>100</b> | <b>14</b> | <b>133</b> | <b>213,348,274</b> |

\* Heating equipment includes furnaces, water heaters, fireplaces, wood stoves, space heaters and associated chimneys/vents.

† An exposure fire is a fire that spreads from one property to an adjacent property.



## FIRE Facts

- ◆ Most home fires (21%) and most home fire injuries (32%) were related to cooking.
- ◆ Most kitchen fires started on stove/top burners (72%), and these caused 81% of injuries in kitchen fires.
- ◆ The ignition of cooking oil accounted for 31% of stove-top cooking related fires and for 41% of stove-top cooking related fire injuries.
- ◆ Major sources of ignition in bedrooms were electrical wiring/distribution-equipment/lamps/bulbs (19%), candles (8%), cigarettes or smoking materials (8%).
- ◆ Major sources of ignition in living rooms were cigarettes/smoker's material (20%), electrical wiring/distribution-equipment/lamps/bulbs (13%), fire places/wood stoves/chimneys (11%), arson/vandalism (11%), candles (8%).
- ◆ Exterior wall fires were mainly due to exposure fires (48%) and cigarettes and smoker's materials (14%).
- ◆ Fires in garages (for vehicle) were mainly from electrical sources (11%), cigarettes and smoker's materials (10%) and chemical reaction/spontaneous combustion (10%).
- ◆ Fifty per cent of fires in exterior balcony/porch were from cigarettes and smoker's materials.
- ◆ Fifty-one per cent of laundry area fires started in clothes dryers.
- ◆ Forty-nine per cent of heating equipment room fires were from furnaces and service water heaters.

## Home Fires by Smoke Alarm Operation

### Smoke Alarm Installation

| Status        | Fires        | % of Fires | Deaths*   | % of Deaths | Injuries   | % of Injuries | \$ Losses          | % of \$ Losses |
|---------------|--------------|------------|-----------|-------------|------------|---------------|--------------------|----------------|
| Not Installed | 924          | 51         | 6         | 43          | 31         | 23            | 108,560,090        | 51             |
| Installed     | 901          | 49         | 8         | 57          | 102        | 77            | 104,788,184        | 49             |
| <b>Total</b>  | <b>1,825</b> | <b>100</b> | <b>14</b> | <b>100</b>  | <b>133</b> | <b>100</b>    | <b>213,348,274</b> | <b>100</b>     |

\* Please refer to the research article titled "Making sense of smoke alarm data and home fire deaths," in the August 2004 issue of *Alberta FIREnews* (pages 16 to 19), for a detailed statistical analysis of home fire deaths in relation to smoke alarms. Previous issues of *Alberta FIREnews* are posted at [www.ofc.alberta.ca](http://www.ofc.alberta.ca).

### Activation of Smoke Alarms

| Status               | Fires      | % of Fires | Deaths   | % of Deaths | Injuries   | % of Injuries | \$ Losses          | % of \$ Losses |
|----------------------|------------|------------|----------|-------------|------------|---------------|--------------------|----------------|
| Activated            | 307        | 34         | 1        | 13          | 44         | 43            | 41,436,747         | 40             |
| Not Activated        | 219        | 24         | 2        | 25          | 20         | 20            | 12,321,292         | 12             |
| Activation – Unknown | 375        | 42         | 5        | 63          | 38         | 37            | 51,030,145         | 49             |
| <b>Total</b>         | <b>901</b> | <b>100</b> | <b>8</b> | <b>100</b>  | <b>102</b> | <b>100</b>    | <b>104,788,184</b> | <b>100</b>     |

### Alarm Assistance to Occupants

| Status                                     | Fires      | % of Fires | Deaths   | % of Deaths | Injuries  | % of Injuries | \$ Losses         | % of \$ Losses |
|--------------------------------------------|------------|------------|----------|-------------|-----------|---------------|-------------------|----------------|
| Occupant Evacuation Unknown                | 7          | 2          | 0        | 0           | 1         | 2             | 16,387,609        | 40             |
| Not Applicable/ No Occupants               | 44         | 14         | 0        | 0           | 3         | 7             | 6,013,891         | 15             |
| Alarm Assisted Occupants to Evacuate       | 209        | 68         | 0        | 0           | 24        | 55            | 18,114,152        | 44             |
| Alarm Did Not Assist Occupants to Evacuate | 47         | 15         | 1        | 100         | 16        | 36            | 921,095           | 2              |
| <b>Total</b>                               | <b>307</b> | <b>100</b> | <b>1</b> | <b>100</b>  | <b>44</b> | <b>100</b>    | <b>41,436,747</b> | <b>100</b>     |

## FIRE Facts

- ◆ In 2010, 51% of homes where fire occurred did not have smoke alarms installed. Lack of power source was the major reason the alarms failed to activate (30%).
- ◆ During the five-year period 2006–10, 49% of homes which experienced fires had no smoke alarms. In 26% of homes, alarms did not activate due to lack of a power source. Occupants evacuated safely in 71% of homes where smoke alarms activated.

# Alberta Home Fire Losses

## Reasons – Alarms Did Not Assist

| Status                               | Fires     | % of Fires | Deaths   | % of Deaths | Injuries  | % of Injuries | \$ Losses      | % of \$ Losses |
|--------------------------------------|-----------|------------|----------|-------------|-----------|---------------|----------------|----------------|
| Alarm Inaudible                      | 1         | 2          | 0        | 0           | 1         | 6             | 0              | 0              |
| Physical/Mental Challenge            | 2         | 4          | 1        | 100         | 1         | 6             | 470,000        | 51             |
| Unable to Evacuate-Age Related       | 3         | 6          | 0        | 0           | 1         | 6             | 5,200          | 1              |
| Unnecessary to Evacuate              | 35        | 74         | 0        | 0           | 11        | 69            | 327,079        | 36             |
| Under the Influence of Drugs/Alcohol | 6         | 13         | 0        | 0           | 2         | 13            | 118,816        | 13             |
| <b>Total</b>                         | <b>47</b> | <b>100</b> | <b>1</b> | <b>100</b>  | <b>16</b> | <b>100</b>    | <b>921,095</b> | <b>100</b>     |

## Reasons – Alarms Not Activated

| Status                    | Fires      | % of Fires | Deaths   | % of Deaths | Injuries  | % of Injuries | \$ Losses         | % of \$ Losses |
|---------------------------|------------|------------|----------|-------------|-----------|---------------|-------------------|----------------|
| Unsuitable Location       | 13         | 6          | 0        | 0           | 0         | 0             | 719,000           | 6              |
| Dead Battery              | 22         | 10         | 0        | 0           | 2         | 10            | 1,283,613         | 10             |
| No Battery                | 27         | 12         | 0        | 0           | 6         | 30            | 682,557           | 6              |
| AC Not Connected/Disabled | 18         | 8          | 0        | 0           | 4         | 20            | 1,927,669         | 16             |
| Mechanical Failure        | 12         | 5          | 0        | 0           | 3         | 15            | 99,150            | 1              |
| Not Enough Smoke*         | 127        | 58         | 2        | 100         | 5         | 25            | 7,609,303         | 62             |
| <b>Total</b>              | <b>219</b> | <b>100</b> | <b>2</b> | <b>100</b>  | <b>20</b> | <b>100</b>    | <b>12,321,292</b> | <b>100</b>     |

\* Since most of these fires originated in outside areas or structural areas of homes, an adequate amount of smoke did not reach inside the homes to trigger the smoke alarms.



## FIRE Facts

- ♦ Of the 14 home fire fatalities, 6 (or 43%) occurred in homes with no smoke alarms, two (14%) in homes where the smoke alarm did not activate, one (7%) where smoke alarm activated and five (36%) where activation was unknown.

# Glossary

For a more detailed description of the following variables, please refer to the *Alberta Fire Statistics Reporting Manual* available on the Office of the Fire Commissioner website at [www.ofc.alberta.ca](http://www.ofc.alberta.ca).

## Act or Omission

*The human element by which someone has done something (an act) or failed to do something (an omission). The act or omission indicates whether the fire was deliberate, neglectful or accidental.*

### Incendiary or Set fires

Includes arson, suspected incendiarism, riot, mischief or vandalism.

### Misuse of Source of Ignition

Includes disposal of smoker's material, thawing, inadequate control of an open fire, children playing with source of ignition, welding or cutting too close to combustible material or torch too close to combustible material.

### Misuse of Material Ignited

Includes fuel spilled accidentally, improper fuelling technique, cleaning or washing parts, improper container, overheated cooking oil, combustible placed too close to heat, and improper storage.

### Mechanical and Electrical Failure or Malfunction

Includes part failure, automatic or manual control failure, electrical short circuit and part worn out.

### Construction, Design or Installation Deficiency

Includes construction or design deficiency, installation too close to a combustible, other installation deficiency or over fusing.

### Misuse of Equipment

Overfuelling, includes any misuse of equipment or tools.

### Human Failing

Includes person asleep, temporary loss of judgement, physical disability, panic, influence of alcohol or drugs and ignorance of hazard.

## Area of Origin

*The area of a building or vehicle where the fire started.*

### Means of Egress

The area allowing an individual transit or a way of going out. Includes hallway, stairway, escalator, lobby and elevator.

### Assembly, Sales Area

Areas where groups of people gather. Includes theatre, arena, lounge, living room, sales or show room, library, museum and sports facility.



### Function Area

The area where a mode of action or activity is undertaken. Includes sleeping area, dining area, bar, washroom, office, laboratory, printing and photographic reproduction area, kitchen, laundry room, operating room, performance area and manufacturing area.



### Storage Area

The area inside a building where items are stored. Includes product storage area, closet, equipment area, records storage area, shipping and receiving area, trash and rubbish area, vehicle garage and agricultural product storage area.

### Service Facilities

Conveyance items such as dumbwaiters, service shafts, laundry and garbage chutes, heating and cooking ducts and chimneys or gas vents.

### Structural Area

Includes crawl space, balcony, ceiling and floor assembly, wall assembly, exterior wall or exterior roof and awning or canopy.

### Vehicle Area

Includes engine area, fuel area, control area, passenger area and cargo area.

### Outside Area

Includes open area such as lawn, field or park, court, patio, parking area, outdoor storage area and trash or rubbish area.

## Death

*A person killed accidentally as a direct result of a fire or a person who dies from a fire injury within one year following the date on which the injury was sustained.*

**Fire Death**

Refers to a person who died as a direct result of a fire, either by smoke inhalation, burns or physical injury. Fire deaths also include persons killed as a result of a motor vehicle collision, an arson fire, an explosion, suicide, etc. where the Medical Examiner's Office has concluded the cause of death was due to fire.

**Fuel or Energy**

*The fuel associated with the source of ignition. Includes coal, wood, fuel oil, gasoline, natural gas or other fuel gases, smoker's material, electricity, lightning or exposures.*

**Injuries**

*A person accidentally injured as a direct result of a fire (a member of the fire department accidentally injured while in the process of fighting a fire or injured as a result of an accident while en route to or returning from the scene of an actual fire is considered a fire action injury).*

**Minor Injury**

An injury that does not require hospitalization of over a 24-hour period or absence from work of not more than one full day.

**Light Injury**

An injury that required admission to a hospital of over 24 hours up to 48 hours and/or absence from work for a period of two to fifteen days.

**Serious Injury**

An injury that required admission to a hospital for a period of more than 48 hours and/or an absence from work for a period exceeding fifteen days.

**Material First Ignited**

*The actual material that ignites and creates the fire condition.*

**Structural Components, Finish Materials**

Includes roof covering, wall covering, floor covering, structural component, ceiling covering and insulation.

**Furniture, Furnishings**

Includes furniture, ironing board, mattress, bedding, drapery and broom, mop or brush.

**Clothing, Textiles**

Includes clothing, fabric, fur and tarpaulin.

**Wood, Paper Products**

Includes wood, wood shavings, paper, cardboard and paper stock.

**Flammable Liquids**

Includes gasoline, fuel oil, flammable liquids, paint, varnish, tar, asphalt, polish and wax.

**Flammable Gases**

Includes natural gas, propane, anaesthetic gas, acetylene and hydrogen.

**Chemicals**

Includes starch, flour, cellulose nitrate, plastic, oxidizing material, magnesium and alloys, titanium, natural or synthetic rubber and ammonium nitrate.

**Agricultural, Forestry Products**

Includes fibres, grains, hay, trees, felled timber, grass, fertilizer and manure.

**Miscellaneous**

Includes coal, garbage, trash, oily rags and artificial trees.

**Property Classification**

*The principal use or occupancy of the building.*

**Assembly**

Property for the gathering of persons for civic, political, travel, religious, social, educational or recreational purposes. Includes theatres, amusement or recreation places, schools, colleges, universities, churches, social or sport clubs, libraries and museums, eating establishments and passenger terminals.

**Institutional**

Property for medical treatment, or care of persons suffering from illness, disease or infirmity, for the care of infants, convalescents or aged persons and for penal or corrective purposes. Includes prisons, jails, reformatories, homes for the aged, children's hospitals, hospitals and clinics.

**Residential**

Property in which sleeping accommodation is provided for normal residential purposes. Includes one and two family dwellings, apartments, rooming or boarding houses, hotels, motels, dormitories and mobile homes.



## Business and Personal Service

Property for conducting business. Includes offices, personal services such as hairdressing and data processing or storage facilities.

## Mercantile

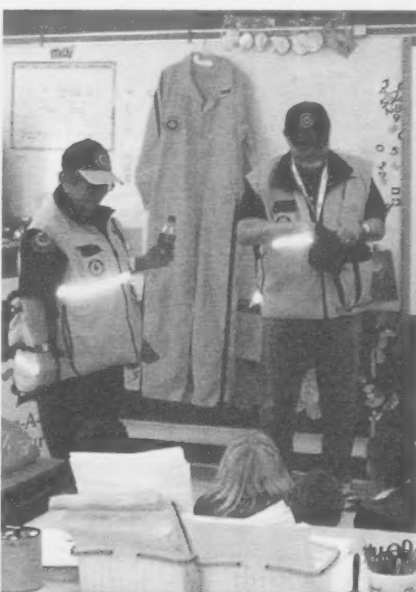
Property used for the display and sale of merchandise. Includes food and beverage sales, textile and clothing sales, furniture and appliance sales, books and specialty sales, recreational and hobby supply sales, repair shops, laundries, vehicle and boat sales and department or variety stores.

## Industrial Manufacturing Properties

Property where raw materials are transformed into new products and where the component parts of manufactured products are assembled. Includes chemical, petroleum, paint and plastic manufacturing; wood, furniture, and paper manufacturing; metal product and electrical equipment manufacturing; food processing; beverage, tobacco, soap and margarine manufacturing; textile manufacturing; footwear and wearing apparel manufacturing; and vehicle and related equipment manufacturing.

## Storage Properties

Property used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. Includes agricultural product storage; textile, fibre and clothing storage; processed food and beverage storage; flammable liquids, gas and petroleum products storage; wood, furniture, and paper products storage; chemical, paint and plastic storage; metal products, machinery, and electrical appliance storage and vehicle storage.



## Special Property & Transportation Equipment

Mainly outdoor property and transport equipment. Includes outdoor property, piers, buildings under construction or demolition, watercraft, rail transport vehicles, ground transport vehicles, aircraft and other special equipment.

## Miscellaneous

Includes laboratories, farm facilities, outbuildings, utilities, glass and pottery manufacturing, mining, communications and nucleonics.

## Source of Ignition

*The actual equipment, device or object which brings about ignition.*

## Cooking Equipment

Includes stove, range, food warming appliance, deep fat fryer, broiler and portable cooking unit.

## Heating Equipment

Includes central heating unit, service water heater, space heater, fireplace, chimney, flue pipe and steam or hot water pipe.

## Appliances and Equipment

Includes dryer, air conditioning equipment, pressing iron and incinerator. Smoker's Material and "Open" Flames Includes cigarettes, pipes, cigars and/or matches, lighters when used in conjunction with smoking. Includes matches and lighters not associated with smoker's material, candles, cutting torches, welding equipment and hot ashes.

## Exposure

Includes exposure from an attached or detached structure, lumber yard, open fire, forest, grass and brush.

## Miscellaneous

Includes internal combustion engine, heat treatment equipment, industrial oven, tar pot, fireworks, conveyors, commercial and industrial machinery and chemical reactions.

Digital images and photos submitted to enhance this report by fire and emergency services are gratefully acknowledged.

Report prepared by Mahendra Wijayasinghe, Ph.D., Manager, Research and Analysis, Office of the Fire Commissioner, Public Safety Division, Alberta Municipal Affairs. Email: firecomm@gov.ab.ca

# THE HISTORY OF THE

## REIGN OF

### CHARLES THE FIRST

BY

JOHN BURNET

OF

THE

UNIVERSITY OF

OXFORD

IN

THE

YEAR



### Office of the Fire Commissioner

Public Safety Division – Alberta Municipal Affairs  
16<sup>th</sup> Floor, Commerce Place  
10155 - 102 Street  
Edmonton, AB T5J 4L4  
Email: [firecomm@gov.ab.ca](mailto:firecomm@gov.ab.ca)  
Fax: 780-415-8663  
Website: [www.ofc.alberta.ca](http://www.ofc.alberta.ca)

### Communication Inquiry Centre

Public Safety Division – Safety Services  
Alberta Municipal Affairs  
16<sup>th</sup> Floor, Commerce Place  
10155 - 102 Street  
Edmonton, AB T5J 4L4  
Phone: 1-866-421-6929  
Email: [safety.services@gov.ab.ca](mailto:safety.services@gov.ab.ca)

### Provincial Operations Centre (POC)

24 Hour: 1-866-618-2362, Email: [ma.poc@gov.ab.ca](mailto:ma.poc@gov.ab.ca)

### North West Region

Bag 900, Box 24  
9621 - 96 Avenue  
Peace River, AB T8S 1T4

### North Central

16<sup>th</sup> Floor, Commerce Place  
10155 - 102 Street  
Edmonton, AB T5J 4L4

### North East

16<sup>th</sup> Floor, Commerce Place  
10155 - 102 Street  
Edmonton, AB T5J 4L4

### East Central

Box 5000 Station M, AFSC Building  
4910 - 52 Street  
Camrose, AB T4V 4E8

### Central Alberta

Suite 207, Provincial Building  
4920 - 51 Street  
Red Deer, AB T4N 6K8



### Southern Alberta

360 Provincial Building  
200, 5<sup>th</sup> Avenue S  
Lethbridge, AB T1J 4C7

### South Central Alberta

250, 7015 Macleod Trail SW  
Calgary, AB T2H 2K6



Interactive website on fire prevention and safety: [www.3minutedrill.alberta.ca](http://www.3minutedrill.alberta.ca)

